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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,336

11/25/2003

Byoung-Young Bae

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7590

05/02/2006

STAAS & HALSEY LLP

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EXAMINER

MILLER, BRIAN E

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/720,336

**Applicant(s)**

BAE, BYOUNG-YOUNG

**Examiner**

Brian E. Miller

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2627

Claims 1-11 are pending.

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

2. The disclosure is objected to because of the following informalities: (a) page 4, para [0017] "second rail 350" should be changed to "second rail 250"; (b) page 6, para [0030], last line on page, "be made as thin as T3 as shown in FIG. 1" should be changed to the appropriate figure as FIG. 1 is the conventional drive. Furthermore, no "T3" is shown in FIG. 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsunori (JP2000-021155-see attached machine translation). Mitsunori discloses, referring to FIG. 1 & 4 mainly, (as per claim 1) a slim optical disc drive 1 comprising: a tray 4 having a spindle motor 53 which rotates an optical disc (not shown) and an optical pickup 6 which slides across the optical disc mounted on the tray 4; a lower case 27/11/12(pair of) where the tray is slidably installed (via rails 122/123); and a main control board 21 installed on the lower case to control

Art Unit: 2627

operation of the optical disc drive, wherein the lower case comprises: a first frame 121 (one of a pair) which supports a first side of the tray, a second frame (second of a pair) which supports a second side of the tray, and a third frame 11 formed of a plate member which is narrower than the first frame and the second frame, to connect the first frame and the second frame and disposed under the tray and the main control board (as shown in the figure-see also para [0021]); (as per claim 2) wherein the main control board is coupled to each of the first frame and the second frame (via screws 113-see FIG. 4); (as per claim 3) further comprising a flexible printed circuit 19 which is flexibly bent 191 as the tray slides and electrically connects the tray 4 and the main control board 21, wherein a portion of the flexible printed circuit 19 is fixed to the third frame (not directly, however, end portion 18 of FPC is connected to drive unit 5 which in turn is fixed to the third frame 11); (as per claim 6) wherein the flexible printed circuit comprises a first connection portion 18 which connects the flexible printed circuit to the tray 4 of the optical disc drive and a second connection portion 25 which connects the flexible printed circuit to the main control board 21; (as per claim 7) wherein the flexible printed circuit is U-shaped (when not ejected out of housing) and has a first connection portion 18 and a second connection portion 25 formed on end portions of the flexible printed circuit; (as per claim 8) wherein the first connection portion 18 and the second connection portion 25 are formed on end portions of the flexible printed circuit; (as per claim 9) further comprising a step (unnumbered-see FIG. 1, adjacent front bezel 10, the step is apparent) formed on the tray, which corresponds to the height of the main control board to keep the tray from interfering with the main control board. It is noted that design of the tray would not allow

Art Unit: 2627

interference with the PCB, or it could not operate properly.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-5, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsunori.

For a description of Mitsunori, see the rejection, supra.

Mitsunori remains silent as to (a) a beading line protruding upward and formed on the third frame to improve a bending strength; (b) a plurality of reference holes formed in the first frame and the second frame and a plurality of protruding portions coupled to the reference holes formed on the third frame (or reversed).

With respect to (a) above and the “beading line” Official Notice is taken that forming such on a metal plate was notoriously old and well known in the art, to therefore provide strengthening to the respective plate member, and doing so would have been obvious to a skilled artisan (see for example US Patent to Watanabe et al 6,151,284 and top cover 9).

With respect to (b) above and providing of reference holes/protruding portions on the respective frame portions, this would have been considered an obvious modification to the structure of Mitsunori by a skilled artisan. The motivation would have been: providing such a configuration would have permitted ease of alignment and assembly of these components, thus assuring

Art Unit: 2627

accurate assembly, which advantages would have been readily apparent to a skilled artisan, through routine engineering optimization.

***Allowable Subject Matter***

7. Claim 11 is allowable over the prior art of record. Complete reasons for allowance will be written upon allowance if deemed necessary at that time.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Including US Patent to Watanabe et al (6,151,284) which includes a similar frame configuration as Mitsunori and includes a "beading line" on top cover 9 to improve strength thereof.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2627

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "B. Miller", with a stylized flourish at the end.

**Brian E. Miller**  
**Primary Examiner**  
**Art Unit 2627**

BEM  
April 26, 2006